## REMARKS

### *Regarding Amendments to the Claims*

Claims 8-12 are pending in the application. The OA indicates that Claim 8 is allowable. Each of Claims 9-11 has been amended to broaden its coverage. Claims 9-11 have not been amended for the purpose of patentability. Those claims were patentable over the rejections before amendment. Claim 12, incorporating material indicated as "allowable subject matter" in the OA, has been added.

### *Regarding Rejections to Claims 9-11 Under 35 USC §103 as Unpatentable over LIDDY in View of KUPIEC.*

The OA asserts with regard to Claims 9-11:

```
... Liddy teaches indexing results of a document retrieval
operation in to a latent semantic index vector space
(column 10, lines 22-24 and column 16, lines 1-17);
```

The specification of the application discloses the following description of a latent semantic index (LSI) space at page 5:

*The use of LSI is illustrated with reference to FIGURE 2. As a preliminary step in using the LSI technique, a large sparse matrix (the TxD matrix) is formed. Each row in the TxD matrix corresponds to a term that appears in the documents of interest, and each column corresponds to a document. Each element (m,n) in the matrix corresponds to the number of times that the word m occurs in document n. Referring to FIGURE 3, the known technique of singular value decomposition (SVD) can be used to reduce the TxD matrix to a product of three matrices, including a matrix that has non-zero values only on the diagonal. Small values on this diagonal, and their corresponding rows and columns in the other two matrices are then deleted. This truncation process is used to generate a vector space of reduced dimensionality as illustrated in FIGURE 4 by recombining the*

*three truncated matrices in to (TxD)' matrix. Both terms and documents are located at specific positions in this new vector space.*

LSI includes the production of a latent semantic vector space by applying SVD to a TxD matrix formed from a document collection.

In order to anticipate a claim, or render it obvious, one or more references must disclose each and every element of the claim. Each of Claims 9-12 includes the use of an LSI vector space. Neither LIDDY nor KUPIEC, alone or in combination, disclose the use of an LSI vector space.[1] As such, neither LIDDY nor KUPIEC, alone or in combination, can serve to anticipate or render obvious Claims 9-12.

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[1] The cited portions of LIDDY state the following. Notice there is no mention of LSI or SVD.

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The fixed-length vector representation of the subject contents of a text i   s
stored in database index file 75 along with other index representation of the
text. (LIDDY C10 L22-24)
```
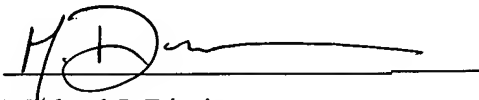
```
2.9 Term Indexer 150
Term indexer 150 indexes terms and SFC 100 indexes SFC vector data in related
files, shown collectively as index file 75. Other  document-based indexing is
possible. The term index is a two -tier inverted file. The first level of the
file contains terms, where a term can be a word (single term), a complex
nominal, or a proper noun. The second level of the file contains postings
(document references) with associated scores. The scores are an indication of
the strength of the association between the term and the document. A single
term will usually map to numerous postings, each with a score, as shown in
FIG. 4. Terms are also indexed w  ith reference to their location within the
text (both as logical paragraphs and regarding text structure).  Indexing
involves extracting terms from the text, checking for stop words, processing
hyphenated words, then stemming all inflected terms to a stan dard form. (LIDDY
C10 L22-24)
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## CONCLUSION

With consideration of the above amendments and remarks directed to the rejections, the undersigned submits that this application is in condition for allowance, and such disposition is earnestly solicited. If the Examiner believes that the prosecution might be advanced by discussing the application with the undersigned, in person or over the telephone, we would welcome the opportunity to do so.

Respectfully submitted,

Date: *November 09, 2004*                    By: _____

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